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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

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Serial No.:

Group Art Unit:

Examiner:

Atty. Dkt. No.: 11792.0214.DVUS01
 (MECO:214-1/KAM)

Filed: Concurrently herewith

For: **COMPOSITIONS ENCODING
 LEPIDOTERAN-TOXIC
 POLYPEPTIDES AND METHODS
 OF USE (AMENDED)**

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
 Washington, D.C. 20231

Sir:

IN THE SPECIFICATION:

Please amend the specification as follows:

At page 1, please delete the existing title of the application, and replace with a new title:

-- COMPOSITIONS ENCODING LEPIDOTERAN-TOXIC POLYPEPTIDES AND METHODS OF USE--

At page 2, lines 2-4 please delete the first full paragraph and insert the following:

--This is a divisional of co-pending application Serial No. 09/337,635, filed June 21, 1999, now allowed, which is a divisional of application Serial No. 08/980,071, filed November 26, 1997, now issued (U.S. Patent No. 5,914,318), which is a continuation-in-part of application Serial No. 08/757,536, filed November 27, 1996, now issued (U.S. Patent No. 5,942,664).--

IN THE CLAIMS:

Please cancel claims 1-36, 38, and 41-58 without prejudice.

Please amend claim 37 to read:

37. A method of killing an insect, comprising providing to an insect an insecticidally-effective amount of a composition comprising a polypeptide preparable by a process comprising the steps of:

- (a) culturing a *B. thuringiensis* EG12111 or EG12121 cell under conditions effective to produce a composition comprising a *B. thuringiensis* polypeptide; and
- (b) obtaining said composition from said cell.

Please add the following new claims:

--59. A method of killing an insect, comprising providing to an insect an insecticidally-effective amount of a composition comprising a polypeptide of SEQ ID NO:59 or SEQ ID NO:61.

60. A method of killing an insect comprising providing to an insect an insecticidally-effective amount of a *Bacillus thuringiensis* Cry1C δ -endotoxin polypeptide, wherein:

- the polypeptide comprises one or more amino acid mutation in the loop region between α helices 4 and 5 of domain 1; and
- the polypeptide comprises one or more amino acid mutation in the loop region between α helices 6 and 7 of domain 1; and

the polypeptide has improved insecticidal activity against insects relative to a native Cry1C δ-endotoxin polypeptide.

61. The method of claim 60, wherein said polypeptide has an alanine, arginine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, histidine, isoleucine, leucine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, or valine residue for amino acid 219, and an alanine, asparagine, aspartic acid, cysteine, glutamic acid, glutamine, glycine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, proline, serine, threonine, tryptophan, tyrosine, or valine residue for amino acid 148.
62. The method of claim 61, wherein said polypeptide has an alanine, leucine, methionine, glycine, or aspartic acid residues for amino acids 219 and 148.
63. The method of claim 60, wherein said insect is a larvae.
64. The method of claim 60, wherein said insect is a Lepidopteran.
65. The method of claim 64, wherein said insect is *Spodoptera exigua*, *Spodoptera frugiperda*, *Trichoplusia ni*, *Heliothis virescens*, or *Plutella xylostella*.

REMARKS

The specification has been amended to recite the current history of this divisional application. With this amendment there are now 11 claims pending, namely claims 37-40 and 59-65. Pursuant to 37 C.F.R. § 1.118(a), Applicants respectfully submit that the foregoing amendments do not introduce any new material into the application. A pending claims list is attached hereto for the convenience of the Examiner.

The Commissioner is authorized to charge the filing fee to Deposit Account No. 01-2508/11792.0214.DVUS01. Should any additional fees be required for any reason relating to the